

Applicant: Michael E. Gvilli et al.  
For: Apparatus and Method for Controlling the Amount of Trash in Lint

1           1.       A variable rate lint cleaner for a cotton lint cleaning machine with rotating saws,  
2 comprising:  
3                   at least one grid bar with a cleaning edge, and  
4                   an actuator coupled to the grid bar, for moving the grid bar between an engaged  
5 position in which the cleaning edge is near the teeth of the saws and a disengaged position in  
6 which the cleaning edge is farther from the saws.

1           2.       The apparatus of claim 1, further comprising a driver for the actuator, which on  
2 command sends signals to the actuator to move the grid bar between the engaged and disengaged  
3 position.

1           3.       The apparatus of claim 2, further comprising an operator interface terminal which  
2 enables the use of said lint cleaner to command the driver to position the grid bar into the  
3 engaged or disengaged position.

1           4.       The apparatus of claim 1, further comprising means for activating the grid bar to a  
2 desired position.

1           5.       The apparatus of claim 4, wherein the means for activating comprises means for  
2 using an input trash level measurement to determine the bars to engage with the lint.

1           6.       The apparatus of claim 5, wherein the input trash level is measured using imaging  
2 means.

1           7.       The apparatus of claim 6, wherein the means for activating further comprises a  
2 lookup table that is employed in response to the input trash level.

1           8.       The apparatus of claim 7 wherein the means for activating further comprises using  
2 an output trash level measurement to determine the bars to engage with the lint.

1           9.       The apparatus of claim 8, wherein the output trash level is measured using  
2   imaging means.

1           10.     The apparatus of claim 9, wherein the means for activating further comprises a  
2   lookup table that is employed in response to at least the output trash level.

1           11.     The apparatus of claim 1, further comprising a lint retaining member coupled to  
2   the grid bar.

1           12.     The apparatus of claim 1, further comprising a lint retaining brush coupled to the  
2   grid bar.

1           13.     The apparatus of claim 1, further comprising a movement limiting stop for the  
2   grid bar.

1           14.     The apparatus of claim 1, further comprising a stop switch for the grid bar.

1           15.     The apparatus of claim 1 comprising more than one lint cleaner in series and at  
2   least one bypass valve used to bypass one or more of the lint cleaners to reduce the amount of  
3   lint lost in the cleaning process.

1           16.     The apparatus of claim 1, wherein the actuator is responsive to an input trash  
2   level, an output trash level, and a desired output trash level.

1   17.           An apparatus for a variable rate lint cleaner used in cotton gins comprised of:  
2                at least one lint cleaning machine with rotating saws and at least one grid bar,  
3                an actuator coupled to the grid bar, for moving the grid bar such that its cleaning  
4                edge is either in the engaged position near the teeth of the saws or disengaged from  
5                cleaning operation such that its cleaning edge is moved away from the teeth of the saws,  
6                a driver for the actuator which on command sends signals to the actuator to move  
7                the grid bar to the engaged or to disengaged position, and

an operator interface terminal which enables a user of said lint cleaner to command the driver to position the grid bar into the engaged or disengaged position.

18. The apparatus of claim 17, further comprising means for activating the grid bar to a desired position.

19. The apparatus of claim 18, wherein the means for activating comprises means for using an input trash level measurement to determine the bars to engage with the lint.

20. The apparatus of claim 19, wherein the input trash level is measured using imaging means.

21. The apparatus of claim 20, wherein the means for activating further comprises a lookup table that is employed in response to the input trash level.

22. The apparatus of claim 21 wherein the means for activating further comprises using an output trash level measurement to determine the bars to engage with the lint.

23. The apparatus of claim 22, wherein the output trash level is measured using imaging means.

24. The apparatus of claim 23, wherein the means for activating further comprises a lookup table that is employed in response to at least the output trash level.

25. The apparatus of claim 17, further comprising a lint retaining member coupled to the grid bar.

26. The apparatus of claim 17, further comprising a lint retaining brush coupled to the grid bar.

27. The apparatus of claim 17, further comprising a movement limiting stop for the grid bar.

28. The apparatus of claim 17, further comprising a stop switch for the grid bar.

1           29.     The apparatus of claim 17 comprising more than one lint cleaner in series and at  
2     least one bypass valve used to bypass one or more of the lint cleaners to reduce the amount of  
3     lint lost in the cleaning process.

1           30.     The apparatus of claim 17, wherein the driver for the actuator is responsive to an  
2     input trash level, an output trash level, and a desired output trash level.

1           31.     An apparatus for a variable rate lint cleaner used in cotton gins comprised of:  
2                   at least one lint cleaning machine with rotating saws; and  
3                   a plurality of grid bars for cleaning lint that is carried by the saws, wherein the  
4     grid bars are movable between an engaged position in which the cleaning edges of the  
5     bars are close to the teeth of the saws so that they participate in cleaning the lint, and a  
6     disengaged position in which the cleaning edges of the bars are farther from the teeth of  
7     the saws, so that they do not participate in cleaning the lint.

1           32.     The apparatus of claim 31, further comprising means for automatically moving  
2     the grid bars between the engaged and disengaged positions.

1           33.     The apparatus of claim 32, wherein the means for automatically moving the grid  
2     bars is responsive to an input trash level, an output trash level, and a desired output trash level.